DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A47EU
Revision 10
Polskie Zaklady Lotnicze Spolka.
PZL M18
PZL M18A
PZL M18B

July 29, 2016

TYPE CERTIFICATE DATA SHEET No. A47EU

This data sheet which is part of Type Certificate No. A47EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder. Polskie Zaklady Lotnicze Spolka zo.o.
Wojska Polskiego 3
39-300 Mielec
Poland

Type Certificate Ownership Record Wytwornia Sprzetu Komunikacyjnegc,"PZL Mielec" transferred ownership of type certificate A47EU to Polskie Zaklady Lotnicze Spolka zo.o. on January 2000.

I. Model PZL M18 (Restricted Category), approved January 23, 1981.

Engine. 1 PZL-KALISZ ASz-62IR-M18 nine cylinder air cooled radial.
Reduction gear ratio: 0.687:1

Fuel. 91 (Minimum grade aviation fuel).

Oil. Aeroshell 100W.

Engine Limits.

Rating	S.H.P.	R.P.M.	Manifold Pressure (Inch of Hg)	Altitude (ft)	Cyl. Head Temp. (°C)
Takeoff (5 min)	967	2200	41.3	0	245
Max. continuous	793	2100	35.4	0	215
	812	2100	35.4	5,000	215

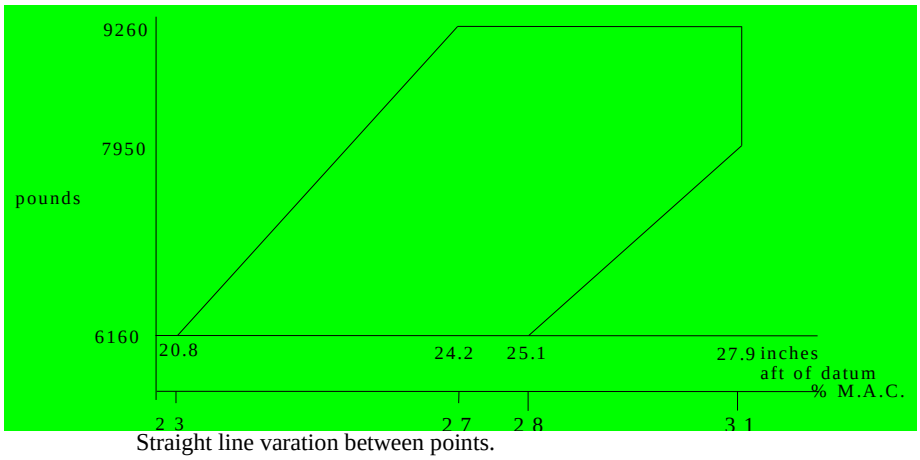
Propeller. PZL-Warszawa AW-2-30, four blade constant speed.
Diameter:129.9 inches.

Airspeed Limits (CAS).

V_A	(Maneuvering)	123 knots
V_{FE}	(Flap operating)	108 knots
V_{NE}	(Never exceed)	151 knots

See GICA Polish-approved AFM for airspeed limits when agricultural spraying equipment is installed.

C.G. Range.



Straight line varation between points.

Empty Weight C.G. Range. None

M.A.C. 1/6 inches aft of datum.

Maximum Weight.

Takeoff	9260 lb.
Landing	9260 lb.

Number of Seats.

1 - for operating flights (100 inches aft of datum)
2 - for other flights, pilot plus one person in mechanic's cabin
(1st - 100 inches aft of datum,
2nd - 118 inches aft of datum).

Maximum Baggage. 66 lb. (154 inches aft of datum).
(See AFM Section 2)

Hopper Capacity. 3300 lb. (32.7 inches aft of datum).
(See AFM Section 2)

Fuel Capacity.

Usable - LH tank 94; RH tank 94
Total - 188 per tank (moment arm 37.6 in. aft of datum)
(See NOTE 1)

Oil Capacity (U.S. Gal.). Total - 20.6 (moment arm 19.4 in. fwd of datum)
See NOTE 1 for data on system oil.

Control Surface Movements.

Aileron	Up	21° (± 1°)	Down	17° (± 1°)
Elevator	Up	27° (± 1°)	Down	17° (± 1°)
Elevator trim tab	Up	13° (- 1°)	Down	15° (- 1°)
Rudder	Left	23° (± 1°)	Right	23° (± 1°)
Flaps	0° to 30° (± 1°)			

II. Model PZL M18A (Restricted Category), approved September 8, 1987.

Engine. PZL-Kalisz 1 ASz-62IR-M18 nine cylinder air cooled radial.
Reduction gear ratio: 0.687:1

Fuel. 91 (Minimum grade aviation fuel).

Oil. Aeroshell 100W.

Engine Limits.

Rating	S.H.P.	R.P.M.	Manifold Pressure (Inch of Hg)	Altitude (ft)	Cyl. Head Temp. (°C)
Takeoff (5 min)	967	2200	41.3	0	245
Max. continuous	793	2100	35.4	0	215
	812	2100	35.4	5,000	215

Propeller.

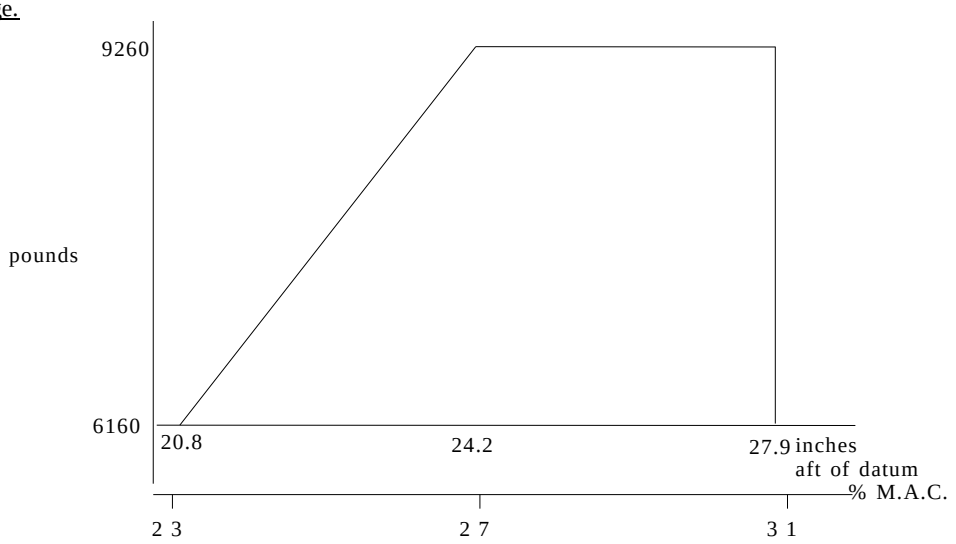
PZL-Warszawa AW-2-30, four blade constant speed.
Diameter:129.9 inches.

Airspeed Limits (CAS).

V_A	(Maneuvering)	123 knots
V_{FE}	(Flap operating)	108 knots
V_{NE}	(Never exceed)	151 knots

See GICA Polish-approved AFM for airspeed limits when agricultural spraying equipment is installed.

Center of Gravity (C.G.) Range.



Straight line variation between points.

Empty Weight C.G. Range.

None

M.A.C.

1/6 inches aft of datum.

Maximum Weight.

Takeoff	9260 lb.
Landing	9260 lb.

Number of Seats.

1 - for operating flights (100 inches aft of datum)
2 - for other flights, pilot plus one person in mechanic's cabin
(1 st - 100 inches aft of datum,
2 nd - 118 inches aft of datum).

Maximum Baggage.

66 lb. (154 inches aft of datum).
(See AFM Section 2)

Hopper Capacity.

3300 lb. (32.7 inches aft of datum).
(See AFM Section 2)

Fuel Capacity (U.S. Gal.).	Usable	- LH tank 53; RH tank 53	
- Standard	Total	- 106 per tank (moment arm 37.6 in. aft of datum)	
- With enlarged tanks	Usable	- LH tank 94, RH tank 94	
	Total	- 188 per tank/moment arm 37.6 in. (aft of datum)	
Oil Capacity (U.S. Gal.).	Total	- 20.6 (moment arm 19.4 in. fwd of datum)	
	See NOTE 1 for data on system oil.		
Control Surface Movements.	Aileron	Up 21° (± 1°)	Down 17° (± 1°)
	Elevator	Up 27° (± 1°)	Down 17° (± 1°)
	Elevator trim tab	Up 10° (± 1°)	Down 17° (± 1°)
	Rudder	Left 23° (± 1°)	Right 23° (± 1°)
	Flaps	0° to 15° (± 1°)	

III. Model PZL M18B (Restricted Category), approved December 19, 1995.

Engine. PZL-KALISZ ASz-62IR-M18 nine cylinder air cooled radial.
Reduction gear ratio: 0.687:1

Fuel. 91 (Minimum grade aviation fuel).

Oil. Aeroshell 100W.

Engine Limits.

Rating	S.H.P.	R.P.M.	Manifold Pressure (Inch of Hg)	Altitude (ft)	Cyl. Head Temp. (°C)
Takeoff (5 min)	967	2200	41.3	0	245
Max. continuous	793	2100	35.4	0	215
	812	2100	35.4	5,000	215

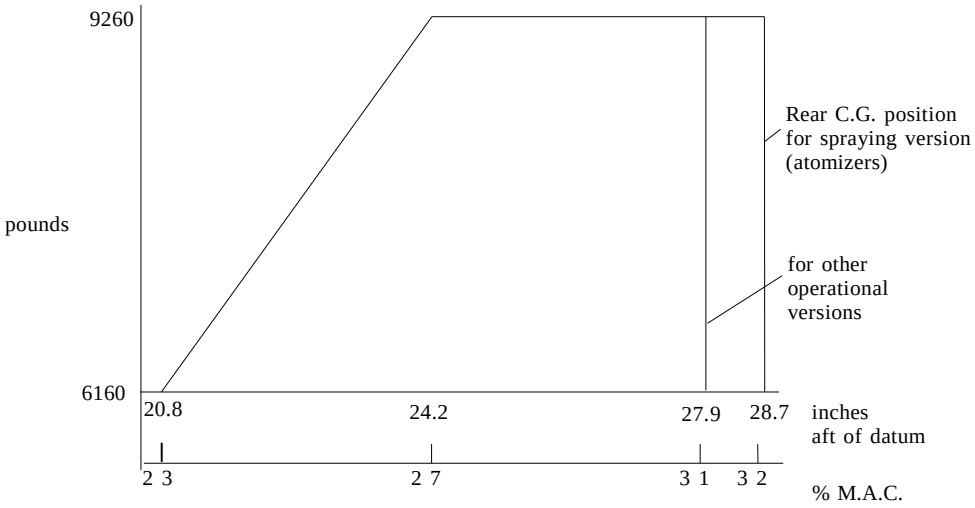
Propeller. PZL-Warszawa AW-2-30, four blade constant speed.
Diameter:129.9 inches.
Low Pitch (30 in station): 18°

Airspeed Limits (CAS).

V_A	(Maneuvering)	123 knots
V_{FE}	(Flap operating)	108 knots
V_{NE}	(Never exceed)	151 knots

See GICA Polish-approved AFM for airspeed limits when agricultural spraying equipment is installed.

Center of Gravity (C.G.) Range.



Straight line variation between points.

Empty Weight C.G. Range.	None
M.A.C.	1/6 inches aft of datum.
Maximum Weight.	Takeoff 9260 lb. Landing 9260 lb.
Number of Seats.	1 - for operating flights (100 inches aft of datum) 2 - for other flights, pilot plus one person in mechanic's cabin (1st - 100 inches aft of datum, 2nd - 118 inches aft of datum).
Maximum Baggage.	66 lb. (154 inches aft of datum). (See AFM Section 2)
Hopper Capacity.	3300 lb. (32.7 inches aft of datum). (See AFM Section 2)
Fuel Capacity.	Usable - LH tank 94; RH tank 94 Total - 188 per tank (moment arm 37.6 in. aft of datum) (See NOTE 1)
Oil Capacity (U.S. Gal.).	Total - 20.6 (moment arm 19.4 in. fwd of datum) See NOTE 1 for data on system oil.

Control Surface Movements.

Aileron	Up	21° (± 1°)	Down	17° (± 1°)
Elevator	Up	27° (± 1°)	Down	17° (± 1°)
Elevator trim tab	Up	13° (- 1°)	Down	15° (- 1°)
Rudder	Left	23° (± 1°)	Right	23° (± 1°)
Flaps	0° to 30° (± 1°)			

DATA PERTINENT TO ALL MODELS

Datum.	Wing leading edge.
Leveling Means.	Longitudinal - Place a level on foot step. Lateral - Place a level on top of main wing spar, center wing.
Serial Numbers Eligible.	Each individual aircraft manufactured under this type certificate must be accompanied by an Export Certificate of Airworthiness as noted below under "Import Requirements" when an application for a U.S. airworthiness certificate is made. (NOTE 5)

Model M18:
1Z005-01, 02, 03, 04, 05, 06, 07, 11, 12 (S/B U/16/81 required)
1Z006-06, 14, 15, 19, 20,
1Z007-03, 04, 05, 07, 08, 14, 15,
1Z008-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 15, 16, 17, 18, 19,
1Z011-04, 05,
1Z012-07, 08, 09, 10, 27, 28, 29, 30, 31, 32, 33

Model M18A:
1Z013-43, 44, 45, 46, 47, 48, 50,
1Z014-13, 14, 15, 16,
1Z015-25,
1Z016-01, 03, 04, 05, 06, 08, 09, 10, 14, 15, 16, 17, 18, 19, 20, 26, 27,
1Z017-09,
1Z018-18, 19, 20, 21,
1Z019-05, 06, 07, 08, 10, 19, 20,
1Z020-03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
1Z021-01, 02,
1Z022-06, 07, 08, 09, 10, 11, 12, 19,
1Z023-01, 02, 03, 04, 06, 07, 08, 09, 29,
1Z024-01, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27,
1Z025-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 18, 19, 20, 21, 22, 23, 24, 25, 26,
1Z026-01, 02, 03,

Model M18B:
1Z026-01 and subsequent

Import Requirements

The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the Civil Aviation Office (CAO) of Poland on behalf of the European Community. The Export C of A should contain the following statement: 'The aircraft covered by this certificate has been examined, tested, and found to comply with U.S. airworthiness regulations 14 CFR Federal Aviation Regulations Part 21.25, U.S. Type Certificate No. A47EU and to be in a condition for safe operation.'

Certification Basis.

FAR 21.17 and FAR 21.25, FAR 23 dated February 1, 1965 as amended through Amendment 23-16, effective, February 14, 1975; except for the following exclusions considered inappropriate for FAR 21.25 the Restricted Category, Agricultural and Forest/Wildlife Conservation (Fire Fighting)
Special Purposes: Paragraphs:
23.45(c); 23.155; 23.175(b); 23.221; 23.253; 23.335(a)(1), (a)(4), (b)(1), (b)(4); 23.629(f); 23.677(b); 23.771(b); 23.773(a)(3); 23.781(b); 23.785(m); 23.807(a)(3); 23.867; 23.929; 23.1141(e); 23.1303(e); 23.1321(d); 23.1325(b)(3); 23.1415; 23.1416; 23.1419; 23.1441; 23.1443; 23.1449; 23.1450; 23.1457; 23.1459; 23.1505(c); 23.1523(c); 23.1524; 23.1545(d); 23.1599(a) and 23.1581(e).

The Civil Aviation Office (CAO) of Poland originally type certificated these aircraft models under its type certificate Number BB-120/1. The FAA validated this product under U.S. Type Certificate Number A47EU. Effective October 24, 2005, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Poland. The EASA TCDS number is EASA.A.056.

Validation Basis.

Type Certificate A47EU was issued pursuant to FAR 21.29 in validation of the General Inspectorate of Civil Aviation Certification of compliance with the aforementioned certification basis, and in accordance with the restricted category airworthiness certificate provisions of 21.185(c).

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations(see Certification Basis) must be installed in the aircraft for airworthiness certification. In addition, the following items of equipment are required:
Model M18 - CACA approved Airplane Flight Manual dated October 4, 1979, or later CACA/GICA approved revision.

Model M18A - CACA approved Airplane Flight Manual dated May 30, 1987, or later CACA/GICA approved revisions.

Model M18B - GICA approved Airplane Flight Manual dated July 30, 1994, or later GICA approved revisions.

The equipment described below may be installed:

1. For agricultural aircraft equipment operations:
   - Spray system - Dwg. No. D98.000/01.0 or D98.100.00.0 or D98.000/11.0
   - Atomizing Equipment - Dwg. No. D98.000/03.0 or D98.200.00.0 and
   - Spreading Equipment - Dwg. No. D98.000/05.0 or D98.300.00.0 or D.98.000/13.0

2. For despersing fire fighting materials:
   - Fire Bombing Equipment - Dwg. No. 98.000/07.0 or D99.100.00.0

Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before October 24, 2005 – by the Civil Aviation Office (CAO) of Poland. (See Note 4)

- Service bulletins,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- Overhaul and maintenance manuals.

The FAA accepts such documents and considers them FAA-approved for type design data only unless one of the following conditions exists:

• The documents change the limitations, performance, or procedures of the FAA approved manuals; or

•The documents make an acoustical or emissions changes to this product's U.S. type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

NOTES:

NOTE 1. A current weight and balance report including list of equipment in certificated empty weight, and loading instructions, must be provided with each aircraft at the time of original airworthiness certification, and at all times thereafter.

The certificated empty weight and corresponding center of gravity location must include undrainable oil (3.7 lbs. at 53 inches) forward of datum, and unusable fuel (22.2 lbs. at 60 inches) aft of datum.

NOTE 2. Placards (Refer to Manufacturer's Specifications for a complete listing): All required placards as listed in the approved Airplane Flight Manual must be installed in the appropriate locations.

Refer to the Airplane Flight Manual, Section 2, Limitations for a listing of required placards.

NOTE 3. Instructions for Continued Airworthiness and Service Life Limits of components include the Maintenance Manual (Section 8 of Airplane Description and Service Manual). Revisions to Airworthiness Limitations must be GICA approved for the FAA. The maximum service life of the models M-18 and M-18A can be extended to a maximum of 6000 hours by compliance with service bulletins K/02-142/91 and E?02.152/94.

All manufacturer's service bulletins (and other manual material) which contain a statement that the document is approved by the exporting airworthiness authority (GICA) may be interpreted as FAA Approved. These approvals pertain to the type design only.
All service bulletins classified as Mandatory by the General Inspectorate Civil Aviation Authority are identified to that effect and are subject to an Airworthiness directive issued by the FAA.

Service documents required:
1. Airplane Description and Service Manual issued December 1979.

NOTE 4. The national airworthiness authority (NAA) for this airplane is the Civil Aviation Office (CAO) of Poland. The CAO was previously known as CAIB, CACA and General Inspectorate of Civil Aviation (GICA).

NOTE 5. Other serial numbers are also eligible on condition that modifications are performed according to service Bulletin issued by aircraft manufacturer. Service Bulletin no. E/02.187/2003 was issued to allow M18 airplanes S/N 1Z010-12, 1Z010-13, 1Z012-34, 1Z012-40, 1Z013-36 to be eligible for certificate A47EU.

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